

SUPPORT

Claim 115 has been amended to depend from Claim 106.

Claims 106 and 115 have been amended to remove the additional compound – ethylene diamine phosphate and/or ammonium polyphosphate, consistent with the Examiner's 112 rejection in the Final Office Action. As this reverts to the originally claimed invention, the support is self evident.

Melamine has been struck from the markush group.

The resin blend has been modified to comprise both a polyethylene and a thermoplastic rubber or thermoplastic elastomer. Support for this amendment can be found on page 7, lines 2-3, of the description as originally filed, where it is said that the blends according to the present application are formed by combining an intumescent flame retardant with at least one polyolefin. This also includes the presence of two polyolefins. Polyolefins in terms of the present application *inter alia* include thermoplastic rubbers or thermoplastic elastomers. That is, in accordance with the above cited passage of the description of the present application, the resin blend now comprises an intumescent flame retardant and two polyolefins.

Furthermore, on page 10, 2nd paragraph, of the description it is stated that *when making a cable compound, co-polyolefins blended with polypropylene or polyethylene achieve the targeted properties discussed below* [emphasis added]. Following the passage on page 14, lines 4-9, of the description, these co-polyolefins represent thermoplastic rubbers or thermoplastic elastomers (cf. also page 7, lines 24-25, of the description).

Another proof for the disclosure of a resin blend comprising an intumescent flame retardant, a polyolefin and a thermoplastic rubber or thermoplastic elastomer by the present application can be found on page 12, lines 8-10, of the description. It is stated there that *mixing time should be sufficient to obtain homogeneous blends and reaction between the polypropylene, activated phosphate, and thermoplastic elastomer*, i.e. between the polyolefin, flame retardant and thermoplastic elastomer in terms of the currently amended claims.

In addition, except composition 1 of Example 2, all flame retardant compositions of Examples 1-13 of the present application comprise a thermoplastic rubber or a thermoplastic elastomer.

ARUGMENTS

In order to advance prosecution, the Applicants are responding to the rejections raised in the 25 March 2009 and 8 September 2009 Office Actions.

25 March 2009 Office Action

1. The 25 March 2009 Office Action rejected claims 106-114 under 35 USC 102(b) as anticipated by Zhu et al. US 6,090,316.

The currently amended independent claim 106 does not have melamine as required by Zhu et al. thus Zhu can no longer anticipate claim 106 and the claims which depend from it.

2. The 25 March 2009 Office Action rejected claims 106-114 under 35 USC 102(b) as being anticipated by Lindsay, US No. 5,409,976.

The currently amended independent claim 106 requires that that a polyolefin and a thermoplastic rubber or elastomer be present. Lindsay does not disclose a polyolefin plus a thermoplastic rubber or elastomer in one composition. Thus, Lindsay cannot anticipate or render obvious the currently claimed invention.

8 SEP 2009 Office Action

3. The 8 Sep 09 Office Action rejected claims 106-117 under 35 USC 112. The second intumescent compound has been removed with the amendment, thus removing any possible new matter as suggested by the Examiner, thus overcoming the rejection. Please note, that a divisional is filed in response to the restriction notice of the Office Action to claim the composition with the two flame retardants.

4. The Office Action rejected claims 106 through 117 under 103(a) over Keogh 2002/0098357 in view of Lindsay et al, USP 5,409,976.

The combination cannot render the claims obvious because the combination does not contain the claimed elements.

The Office Action maintains that Keogh discloses the melamine in the polyolefin referring to para 30. However, this is not the case. Keogh's invention is to use the intumescent flame retardants impregnated on a tape and wrapped around the polyolefin, not blended into the polyolefin as required by the instant claim. In [0030], the layer 12 (thickness A) is the support layer (polyolefin) and layer 14, thickness B, is the flame proofing intumescent material coating or impregnated onto the backing.

The fact that blending the melamine with the polyolefin is not taught in Keogh is supported in para 006 where Keogh teaches that "significant flame retardance [in polyolefins using non-halogenated additives] is only [emphasis added] aired through the addition of high levels of metal salts, such as aluminum and magnesium hydrates. Keogh's knowledge of the prior art best represents the understanding that one of ordinary skill had at the time of the invention. That one of ordinary skill knew at the time of the invention that good flame retardancy in polyolefins is only achievable through metal salts is also supported by the Applicant in the instant specification at page 3, lines 12 – 15.

In no instance is combining the melamine with the polyolefin suggested or taught, and in fact, as discussed above, Keogh teaches against using anything but metal salts in the polyolefin – if one wants to use a non-halogenated high flame retardancy system.

Paragraph 0031, states that a preferred embodiment has the flame retardant in an epoxy/amine hardener system.

Paragraphs 0043 and 0044 compare Figs 3 and 4. Fig 3 is described as having a polyolefin insulator. Fig 4 shows the cable of Fig 3 with the melamine flame retardant in the insulative tape 10 or 15, which is wrapped around the polyolefin. Again, the flame retardant is not in the polyolefin.

Fig 6, discussed in paragraph 0036, uses the tape with melamine as a wrap in either a dual layer wrap (10) or triple layer wrap (15). Example 6 contains a sheath (38) which "could be the fire and thermal insulative wrap 10 or 15", but discloses that the sheath could also be a polyolefin that is a "non-halogen flame retardant polyolefin". However, Keogh does not

disclose that the non-halogen flame retardant polyolefin contain the intumescent melamine flame retardant. In fact, the “either/or” scenario of wrap 10/15 or a non-halogenated polyolefin establishes the exclusionary teaching of Keogh. It is noted that substituting a non-halogenated polyolefin for wrap 10/15 does not eliminate the thermal insulative wrap 10/15 as the wrap is present as layer 42 outside the bundle.

In light of the objective information that only the aluminum and magnesium hydroxides work in polyolefins, it is inconceivable why one of ordinary skill would combine the melamine flame retardant with the polyolefin. At the time of the invention, good flame retardancy in polyolefins is only known to be achieved through the use of aluminum and magnesium hydrates.

Claim 106 requires that the flame retardant blend also comprise a polyolefin and a second thermoplastic elastomer or rubber. Neither reference discloses that the flame retardant composition contain both a polyolefin and a second thermoplastic elastomer or rubber.

Since the amendments to the claims overcome the outstanding rejections of both Office Actions to the originally submitted invention, a notice of allowance is respectfully requested. The Commissioner is authorized to deduct any fees or underpayments that remain or credit any overcharges to Deposit Account No. 50-3651.

Respectfully submitted,

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